

## ***Interactive comment on “Impact of long-range transport over the Atlantic Ocean on Saharan dust optical and microphysical properties” by Cristian Velasco-Merino et al.***

### **Anonymous Referee #2**

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This manuscript reports an analysis of nearly 20 year data from the AERONET stations in both West Africa and Caribbean Basin, assisted by HYSPLIT trajectory analysis. The study focuses on examining changes of dust properties (including loading, microphysical properties, and optical properties) along the trans-Atlantic transit. Result from this study complements what the SALTRACE campaign achieves and adds a useful piece to the characterization of trans-Atlantic dust transport. However, the presentation of paper should be improved either taking advantage of ACP's "English copy-editing service" or editing by a native English speaker.

A use of HYSPLIT trajectory analysis to establish connections between Caribbean

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Basin and West Africa is interesting. Identified cases of the connection are useful to communities. I was wondering if authors can publish all the connection cases as supplementary material. I also would like to see some clarifications in 2.2. from the authors. For example, is the connection determined based on one of three altitudes (750m, 2500m, and 4500 m) or all three altitudes? For one day if all five sites in Caribbean Basin are connected to West Africa, does this count as one case or five cases? In Figure 6, does "3174 connections" mean "3174 days of connection"? It seems that 3174 has been interpreted as 3174 days in text.

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